WHAT IS CLAIMED:

1. A method for reducing a level of amyloid-β (Aβ) peptides *in vivo*, which method comprises administering an Aβ level reducing dose of an estrogen compound to an animal, wherein the animal has an increased level of Aβ.

2. The method according to claim 1, wherein the level of amyloid is a level of soluble amyloid in the brain of the animal.

3. The method according to claim 1, wherein the estrogen compound is 17β-estradiol.

4. The method according to claim 1, wherein the estrogen compound is a composition of conjugated equine estrogen.

5. The method according to claim 1, wherein the Aβ peptides comprise Aβ42 and Aβ40, which method further comprises reducing the ratio of Aβ42 to Aβ40.

6. The method according to claim 1, wherein the Aβ peptides are Aβ42 peptides.

7. A method for evaluating the ability of a test compound to reduce a level of Aβ *in vivo*, which method comprises comparing the level of Aβ of an orchidectomized non-human animal treated with the test compound to the level of Aβ in an orchidectomized non-human control animal, wherein a reduction of the level of Aβ in the animal treated with the test compound compared to the control animal indicates the ability of the test compound to reduce the level of Aβ *in vivo*.

8. The method according to claim 7, wherein the animal is an ovariectomized (ovx) animal.

9. The method according to claim 7, wherein the animal is a guinea pig.

10. The method according to claim 7, wherein the animal is a transgenic rodent that expresses a human amyloid precursor protein.

11. The method according to claim 10, wherein the animal is a double transgenic rodent that also expresses a presenilin protein.

12. The method according to claim 7, wherein the level of Aβ in brain is evaluated.

13. The method according to claim 7, wherein the test compound is an estrogen compound.

14. A method for evaluating the ability of a test compound to reduce a level of Aβ *in vivo*, which method comprises comparing the level of Aβ of an ovx non-human animal selected from the group consisting of a guinea pig and a transgenic rodent that expresses human amyloid precursor protein treated with the test compound to the level of Aβ in an ovx non-human control animal, wherein a reduction of the level of Aβ in the animal treated with the test compound compared to the control animal indicates the ability of the test compound to reduce the level of Aβ *in vivo*.

15. A method for evaluating the ability of a test compound to reduce a ratio of Aβ42 to Aβ40 *in vivo*, which method comprises comparing a ratio of Aβ42 to Aβ40 in an orchidectomized non-human animal treated with a test compound to the ratio of Aβ42 to Aβ40 in an orchidectomized non-human control animal, wherein a reduction of the ratio of Aβ42 to Aβ40

in the animal treated with the test compound compared to the control animal indicates the ability of the test compound to reduce the ratio of Aβ42 to Aβ40 *in vivo*.

16. The method according to claim 15, wherein the animal is an ovariectomized (ovx) animal.

17. The method according to claim 16, wherein the animal is a guinea pig.

18. The method according to claim 15, wherein the compound is an estrogen compound.

19. The method according to claim 18, wherein the estrogen compound is 17β-estradiol.

20. A method for delaying or preventing the onset of, or ameliorating, a disease or disorder associated with amyloidosis, which method comprises administering an Aβ level reducing dose of an estrogen compound to a subject who has an increased risk for developing or shows a symptom of the disease or disorder associated with amyloidosis.

21. The method according to claim 20, wherein the estrogen compound is 17β-estradiol.

22. The method according to claim 20, wherein the estrogen compound is administered daily for at least ten days.

23. The method according to claim 20, wherein the estrogen compound is administered by a controlled release device.

24. The method according to claim 20, wherein the disease or disorder associated with amyloidosis is Alzheimer's disease.

25. The method according to claim 20, wherein a ratio of Aβ42 to Aβ40 is reduced in the subject.

26. A method for predicting an increased likelihood of amyloidosis in a subject, which method comprises observing a reduction in a level of an estrogen compound in the subject compared to a normal level or a level in the subject at an earlier time.

27. The method according to claim 26, wherein the estrogen compound is estrogen β17.

28. The method according to claim 26, wherein the estrogen compound is an aromatizable androgen.

29. The method according to claim 26, wherein the amyloidosis comprises deposition of Aβ peptides.

30. The method according to claim 29, which comprises predicting an increased likelihood of developing Alzheimer's disease.